

What Is Claimed Is:

1. A method for determining a directional angle of a radar object using a multibeam radar, the method comprising:

(a) recording a frequency spectra of radar echoes for a plurality of beams;

(b) seeking a measuring frequency near a frequency maximum assigned to a radar; and

(c) comparing at least one of phases and amplitudes of the radar echoes at the measuring frequency with reference patterns known for various directional angles,

wherein steps (b) and (c) are executed repeatedly, each time for different measuring frequencies, and wherein the directional angles obtained for the measuring frequencies are checked for consistency.

2. The method according to Claim 1, wherein in step (c), the amplitudes of the radar echoes are compared with reference patterns given by a reference antenna diagram.

3. The method according to Claim 1, further comprising modulating a transmitting frequency of the multibeam radar with different ramps, and wherein steps (a), (b) and (c) are executed separately for each ramp, and in the consistency check, directional angles obtained for the ramps at one of the same and different measuring frequencies are also checked for consistency.

4. The method according to Claim 1, wherein, in step (c), plausibility variables are calculated for a plurality of possible directional angles, a plausibility variable for a given directional angle being the greater the better the directional angle conforms with a reference pattern, and, as a final directional angle, a particular directional angle is

selected which, in view of the plausibility variables obtained for the measuring frequencies, has a greatest plausibility.

5. A radar system comprising:

a multibeam radar; and

an evaluation device for determining a directional angle of a radar object, the evaluation device including:

a first device for recording frequency spectra of radar echoes,

a second device for seeking a plurality of measuring frequencies near a frequency maximum assigned to the radar object in the frequency spectra,

a third device for comparing at least one of phases and amplitudes of the radar echoes at each of the measuring frequencies with reference patterns one of stored and calculated for various directional angles, and

a fourth device for calculating a final directional angle for comparison results obtained for various measuring frequencies.